restrictions implement the minimum, applicable federal technology-based requirements. In addition, this Order contains effluent limitations more stringent than the minimum, federal technology-based requirements that are carried over from the previous permit.

WQBELs have been scientifically derived to implement WQOs that protect beneficial uses. Both the beneficial uses and the WQOs have been approved pursuant to federal law and are the applicable federal water quality standards. All beneficial uses and WQOs contained in the Basin Plan and the Ocean Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any WQOs and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 CFR section 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

7. **Antidegradation Policy.** Federal regulation 40 CFR section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16 ("Statement of Policy with Respect to Maintaining High Quality of Waters in California"). Resolution 68-16 is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. Resolution 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of 40 C.F.R. section 131.12 and State Water Board Resolution 68-16.

8. **Anti-Backsliding Requirements.** Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 C.F.R. section 122.44(l) restrict backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.

9. **Endangered Species Act Requirements.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code, §§ 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. §§ 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state, including protecting rare, threatened, or endangered species. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

10. **Water Rights.** Prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a decrease of flow in any portion of a surface or subterranean stream, the Permittee must file a petition with the State Water Board, Division of Water Rights, and receive approval for such a change from the State Water Board. The State Water Board retains the jurisdictional authority to enforce such requirements under CWC section 1211.

11. **Water Recycling.** In accordance with statewide policies concerning water reclamation[2], this Regional Water Board strongly encourages, wherever practical, water recycling, water conservation, and use of storm water and dry-weather urban runoff. However, those recycling efforts shall consider the necessity of a water rights 1211 application which would be necessary if the additional recycling would reduce the current discharge flow rate to the affected water body. When the facility starts using recycled water, these reports shall be included in the annual reports submittal, as described in the MRP.

12. **Monitoring and Reporting.** 40 CFR part 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. CWC sections 13267 and 13383 authorize the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP) establishes monitoring and reporting requirements to implement federal and state requirements. This MRP is provided in Attachment E.

13. **Sewage Sludge/Biosolids Requirements.** Section 405 of the CWA and implementing regulations at 40 CFR part 503 require that producers of sewage sludge/biosolids meet certain reporting, handling, and use or disposal requirements. The state has not been delegated the authority to implement this program; therefore, USEPA is the implementing agency.

D. Impaired Water Bodies on the CWA section 303(d) List

The State Water Board proposed the California 2012 Integrated Report from a compilation of the adopted Regional Water Boards' Integrated Reports containing CWA section 303(d) List of Impaired Waters and section 305(b) Reports following recommendations from the Regional Water Boards and information solicited from the public and other interested persons. The Regional Water Boards' Integrated Reports were used to revise their 2010 303(d) List. On April 8, 2012, the State Water Board adopted the California 2012 Integrated Report. On June 26, 2015, the USEPA approved California's 2012 Integrated Report Section 303(d) List of Impaired Waters requiring Total Maximum Daily Loads (TMDLs) for the Los Angeles Region. The CWA section 303(d) list can be found at the following link: http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2012.shtml

The Ventura River and Ventura River Estuary are in the California 2012 Integrated Report. The following pollutants were identified as impacting the receiving waters:

Ventura River Reach 1 and 2 (Estuary to Weldon Canyon) - Calwater Watershed 40210011

Pollutants: Algae

Ventura River Estuary - Calwater Watershed 40210011

Pollutants: Algae, eutrophic conditions, total coliform, and trash.

E. Other Plans, Polices and Regulations

1. **Sources of Drinking Water Policy.** On May 19, 1988, the State Water Board adopted Resolution No. 88-63, Sources of Drinking Water (SODW) Policy, which established a policy that all surface and ground waters, with limited exemptions, are suitable or potentially suitable for municipal and domestic supply. To be consistent with the State Water Board's SODW Policy, on March 27, 1989, the Regional Water Board adopted Resolution No. 89-03, *Incorporation of Sources of Drinking Water Policy into the Water*

[2] See, e.g., CWC sections 13000 and 13550-13557, State Water Board Resolution No. 77-1 (Policy with Respect to Water Reclamation in California), and State Water Board Resolution No. 2009-0011 (Recycled Water Policy).

Quality Control Plans (Basin Plans) – Santa Clara River Basin (4A)/ Los Angeles River Basin (4B).

Consistent with Regional Water Board Resolution No. 89-03 and State Water Board Resolution No. 88-63, in 1994 the Regional Water Board conditionally designated all inland surface waters in Table 2-1 of the 1994 Basin Plan as existing, intermittent, or potential for Municipal and Domestic Supply (MUN). However, the conditional designation in the 1994 Basin Plan included the following implementation provision: "no new effluent limitations will be placed in Waste Discharge Requirements as a result of these [potential MUN designations made pursuant to the SODW policy and the Regional Water Board's enabling resolution] until the Regional Water Board adopts [a special Basin Plan Amendment that incorporates a detailed review of the waters in the Region that should be exempted from the potential MUN designations arising from SODW policy and the Regional Water Board's enabling resolution]." On February 15, 2002, the USEPA clarified its partial approval (May 26, 2000) of the 1994 Basin Plan amendments and acknowledged that the conditional designations do not currently have a legal effect, do not reflect new water quality standards subject to USEPA review, and do not support new effluent limitations based on the conditional designations stemming from the SODW Policy until a subsequent review by the Regional Water Board finalizes the designations for these waters. This permit is designed to be consistent with the existing Basin Plan.

2. **Title 22 of the California Code of Regulations (CCR Title 22).** The California Department of Public Health (CDPH) established primary and secondary maximum contaminant levels (MCLs) for inorganic, organic, and radioactive contaminants in drinking water. These MCLs are codified in Title 22. The Basin Plan (Chapter 3) incorporates Title 22 primary MCLs by reference. This incorporation by reference is prospective, including future changes to the incorporated provisions as the changes take effect. Title 22 primary MCLs have been used as bases for effluent limitations in WDRs and NPDES permits to protect groundwater recharge beneficial use when that receiving groundwater is designated as MUN. Also, the Basin Plan specifies that "Ground waters shall not contain taste or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses."

3. **Secondary Treatment Regulations.** 40 CFR part 133 establishes the minimum levels of effluent quality to be achieved by secondary treatment. These limitations, established by USEPA, are incorporated into this Order, except where more stringent limitations are required by other applicable plans, policies, or regulations or to prevent backsliding

4. **Storm Water.** CWA section 402(p), as amended by the Water Quality Act of 1987, requires NPDES permits for storm water discharges. Pursuant to this requirement, in 1990, USEPA promulgated 40 CFR part 122.26 that established requirements for storm water discharges under an NPDES program. To facilitate compliance with federal regulations, on November 1991, the State Water Board issued a statewide general permit, *General NPDES Permit No. CAS000001 and Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities.* This permit was amended in September 1992 and reissued on April 17, 1997 in State Water Board Order No. 97-03-DWQ to regulate storm water discharges associated with industrial activity. General NPDES Permit No. CAS000001 was revised on April 1, 2014, and became effective on July 1, 2015.

   General NPDES permit No. CAS000001 is applicable to storm water discharges from the Ojai Valley WWTP's premises. On March 30, 1992, the Discharger filed a Notice of Intent to comply with the requirements of the general permit. The Discharger developed and

currently implements a Storm Water Pollution Prevention Plan (SWPPP), to comply with the State Water Board's General NPDES permit No. CAS000001.

5. **Sanitary Sewer Overflows (SSOs).** The CWA prohibits the discharge of pollutants from point sources to surface waters of the United States unless authorized under an NPDES permit. (33 United States Code (USC) sections 1311 and 1342). The State Water Board adopted General WDRs for Sanitary Sewer Systems, (Water Quality Order No. 2006-0003-DWQ; SSO WDR) on May 2, 2006, to provide a consistent, statewide regulatory approach to address SSOs. The SSO WDR requires public agencies that own or operate sanitary sewer systems to apply for coverage under the SSO WDR, develop and implement sewer system management plans, and report all SSOs to the State Water Board's online SSO database. Regardless of the coverage obtained under the SSO WDR, the Permittee's collection system is part of the POTW that is subject to this NPDES permit. As such, pursuant to federal regulations, the Permittee must properly operate and maintain its collection system (40 CFR section 122.41 (e)), report any non-compliance (40 CFR sections 122.41(1)(6) and (7)), and mitigate any discharge from the collection system in violation of this NPDES permit (40 CFR section 122.41(d)).

   The requirements contained in this Order sections VI.C.3.b (Spill Cleanup Contingency Plan section), VI.C.4 (Construction, Operation and Maintenance Specifications section), and VI.C.6 (Spill Reporting Requirements section) are intended to be consistent with the requirements of the SSO WDR. The Regional Water Board recognizes that there may be some overlap between these NPDES permit provisions and SSO WDR requirements, related to the collection systems. The requirements of the SSO WDR are considered the minimum thresholds (see Finding 11 of State Water Board Order No. 2006-0003-DWQ). To encourage efficiency, the Regional Water Board will accept the documentation prepared by the Permittees under the SSO WDR for compliance purposes as satisfying the requirements in sections VI.C.3.b, VI.C.4, and VI.C.6, provided the more stringent provisions contained in this NPDES permit are also addressed. Pursuant to SSO WDR, section D, provision 2(iii) and (iv), the provisions of this NPDES permit supersede the SSO WDR, for all purposes, including enforcement, to the extent the requirements may be deemed duplicative.

6. **Watershed Management.** This Regional Water Board has been implementing a Watershed Management Approach (WMA) to address water quality protection in the Los Angeles Region following the USEPA guidance in *Watershed Protection: A Project Focus* (EPA841-R-95-003, August 1995). The objective of the WMA is to provide a more comprehensive and integrated strategy resulting in water resource protection, enhancement, and restoration while balancing economic and environmental impacts within a hydrologically-defined drainage basin or watershed. The WMA emphasizes cooperative relationships between regulatory agencies, the regulated community, environmental groups, and other stakeholders in the watershed to achieve the greatest environmental improvements with the resources available. The WMA integrates activities across the Regional Water Board's diverse programs, particularly permitting, planning, and other surface water-oriented programs that have tended to operate somewhat independently of each other.

   The Regional Water Board has prepared and periodically updates its Watershed Management Initiative Chapter, the latest is updated December 2007. This document contains a summary of the region's approach to watershed management. It addresses each watershed and the associated water quality problems and issues. It describes the background and history of each watershed, current and future activities, and addresses TMDL development. The information can be accessed on our website:

http://www.waterboards.ca.gov/losangeles/water_issues/programs/regional_program/watershed/index.shtml.

7. **Relevant TMDLs.** Section 303(d) of the CWA requires states to identify water bodies that do not meet water quality standards and then to establish TMDLs for each waterbody for each pollutant of concern. TMDLs identify the maximum amount of pollutants that can be discharged to waterbodies without causing violations of water quality standards.

   a. **TMDL for Algae, Eutrophic Conditions, and Nutrients in the Ventura River and its Tributaries.** – On December 6, 2012, with Resolution No. R12-011, the Regional Water Board established a *Total Maximum Daily Load for Algae, Eutrophic Conditions, and Nutrients in the Ventura River and its Tributaries (Ventura River Nutrients TMDL)*. On February 19, 2013, the State Water Board approved the Ventura River Algae TMDL in Resolution No. 2013-0005. On June 4, 2013 and June 28, 2013, respectively, OAL and USEPA approved the Ventura River Nutrients TMDL, and it became effective on June 28, 2013. The Ventura River Nutrients TMDL contains waste load allocations applicable to the Ojai Valley WWTP are total nitrogen and total phosphorus.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: 40 CFR section 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 CFR section 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water.

The variety of potential pollutants found in discharges from the Facility presents a potential for aggregate toxic effects to occur. Whole effluent toxicity (WET) is an indicator of the combined effect of pollutants contained in the discharge. Chronic toxicity is a more stringent requirement than acute toxicity. Therefore, chronic toxicity is considered pollutant of concern for protection and evaluation of narrative Basin Plan Objectives.

A. Discharge Prohibitions

Effluent and receiving water limitations in this Board Order are based on the CWA, Basin Plan, State Water Board's plans and policies, USEPA guidance and regulations, and best practicable waste treatment technology. This order authorizes the discharge of tertiary-treated wastewater from Discharge Point 001. It does not authorize any other types of discharges.

B. Technology-Based Effluent Limitations (TBELs)

1. Scope and Authority

Technology-based effluent limits require a minimum level of treatment for industrial/municipal point sources based on currently available treatment technologies while allowing the Permittee to use any available control techniques to meet the effluent limits. The 1972 CWA required POTWs to meet performance requirements based on available wastewater treatment technology. Section 301 of the CWA established a required performance level referred to as "secondary treatment" --that all POTWs were required to meet by July 1, 1977. More specifically, section 301(b)(1)(B) of the CWA required that USEPA develop secondary treatment standards for POTWs as defined in section 304(d)(1). Based on this statutory requirement, USEPA developed national

secondary treatment regulations which are specified in 40 CFR part 133. These technology- based regulations apply to all POTWs and identify the minimum level of effluent quality to be attained by secondary treatment in terms of $BOD_5$20°C, TSS, and pH.

2. Applicable TBELs

This Facility is subject to the technology-based regulations for the minimum level of effluent quality attainable by secondary treatment in terms of $BOD_5$20°C, TSS, and pH. However, all TBELs from the previous Order No. R4-2013-0173 are based on tertiary-treated wastewater treatment standards. These effluent limitations have been carried over from the previous Order to avoid backsliding. Further, mass-based effluent limitations are based on a design flow rate of 3 MGD. The removal efficiency for BOD and TSS is set at the minimum level attainable by secondary treatment technology. The following Table summarizes the TBELs applicable to the Facility.

Table F-6. Summary of TBELs

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
$BOD_5$20°C	mg/L	10	--	15		
	lbs/day[3]	250	--	375		
TSS	mg/L	10	--	15		
	lbs/day[3]	250	--	375		
pH	standard units	--	--	--	6.5	8.5
Removal Efficiency for BOD and TSS	%	≥85	--	--		

This Facility is also subject to TBELs contained in similar NPDES permits, for similar facilities, based on the treatment level achievable by tertiary-treated wastewater treatment systems. These effluent limitations are consistent with the State Water Board precedential decision, State Water Board Order No. WQ 2004-0010 (City of Woodland).

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

CWA section 301(b) and 40 CFR section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. This Order contains requirements, expressed as a technology equivalence requirement, more stringent than secondary treatment requirements that are necessary to meet applicable water quality standards. The Regional Water Board has considered the factors listed in CWC section 13241 in establishing these requirements. The rationale for these requirements, which consist of tertiary treatment or equivalent requirements or other provisions, is discussed beginning in section IV.C.2.

Section 122.44(d)(1)(i) of 40 CFR requires that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to

[3] The mass emission rates are based on the plant design flow rate of 3 MGD, and are calculated as follows: Flow (MGD) x Concentration (mg/L) x 8.34 (conversion factor) = lbs/day. During wet-weather storm events in which the flow exceeds the design capacity, the mass discharge rate limitations shall not apply, and concentration limitations will provide the only applicable effluent limitations.

cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in 40 CFR section 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

a. The Basin Plan establishes the beneficial uses for surface water bodies in the Los Angeles region. The beneficial uses of the Ventura River affected by the discharge have been described previously in this Fact Sheet.

b. The Basin Plan also specifies narrative and numeric WQOs applicable to surface water as shown in the following discussions.

i. **$BOD_5$20°C and TSS**

$BOD_5$20°C is a measure of the quantity of the organic matter in the water and, therefore, the water's potential for becoming depleted in dissolved oxygen. As organic degradation takes place, bacteria and other decomposers use the oxygen in the water for respiration. Unless there is a steady resupply of oxygen to the system, the water will quickly become depleted of oxygen. Adequate dissolved oxygen levels are required to support aquatic life. Depressions of dissolved oxygen can lead to anaerobic conditions resulting in odors, or, in extreme cases, in fish kills.

40 CFR part 133 describes the minimum level of effluent quality attainable by secondary treatment, for BOD and TSS, as:

- The 30-day average shall not exceed 30 mg/L, and
- The 7-day average shall not exceed 45 mg/L.

Ojai Valley WWTP provides tertiary treatment. As such, the BOD and TSS limits in the permit are more stringent than secondary treatment requirements and are based on Best Professional Judgment (BPJ). The Facility achieves solids removals that are better than secondary-treated wastewater by filtering the effluent.

The monthly average and the daily maximum limits cannot be removed because none of the anti-backsliding exceptions apply. Those limits were all included in the previous permit and the Ojai Valley WWTP has been able to meet both limits (monthly average and the daily maximum), for both BOD and TSS.

In addition to having mass-based and concentration-based effluent limitations for BOD and TSS, the Ojai Valley WWTP also has a percent removal requirement for these two constituents. In accordance with 40 CFR sections

133.102(a)(3) and 133.102(b)(3), the 30-day average percent removal shall not be less than 85 percent. Percent removal is defined as a percentage expression of the removal efficiency across a treatment plant for a given pollutant parameter, as determined from the 30-day average values of the raw wastewater influent pollutant concentrations to the Facility and the 30-day average values of the effluent pollutant concentrations for a given time period.

ii. **pH**

The hydrogen ion activity of water (pH) is measured on a logarithmic scale, ranging from 0 to 14. While the pH of "pure" water at 25°C is 7.0, the pH of natural waters is usually slightly basic due to the solubility of carbon dioxide from the atmosphere. Minor changes from natural conditions can harm aquatic life. In accordance with 40 CFR part 133.102(c), the effluent values for pH shall be maintained within the limits of 6.0 to 9.0 unless the POTW demonstrates that (1) inorganic chemicals are not added to the waste stream as part of the treatment process; and (2) contributions from industrial sources do not cause the pH of the effluent to be less than 6.0 or greater than 9.0. The effluent limitation for pH in this permit requiring that the wastes discharged shall at all times be within the range of 6.5 to 8.5 is taken from the Basin Plan which reads "the pH of inland surface waters shall not be depressed below 6.5 or raised above 8.5 as a result of waste discharge."

iii. **Settleable solids**

Excessive deposition of sediments can destroy spawning habitat, blanket benthic (bottom dwelling) organisms, and abrade the gills of larval fish. The limits for settleable solids are based on the Basin Plan narrative, "Waters shall not contain suspended or settleable material in concentrations that cause nuisance or adversely affect beneficial uses." The numeric limits are empirically based on results obtained from the settleable solids 1-hour test, using an Imhoff cone.

It is impracticable to use a 7-day average limitation, because short-term spikes of settleable solid levels that would be permissible under a 7-day average scheme would not be adequately protective of all beneficial uses. The monthly average and the daily maximum limits cannot be removed because none of the anti-backsliding exceptions apply. The monthly average and daily maximum limits were both included in the previous permit and the Ojai Valley WWTP has been able to meet both limits.

iv. **Oil and grease**

Oil and grease are not readily soluble in water and form a film on the water surface. Oily films can coat birds and aquatic organisms, impacting respiration and thermal regulation, and causing death. Oil and grease can also cause nuisance conditions (odors and taste), are aesthetically unpleasant, and can restrict a wide variety of beneficial uses. The limits for oil and grease are based on the Basin Plan narrative, "Waters shall not contain oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect beneficial uses."

The numeric limits are empirically based on concentrations at which an oily sheen becomes visible in water. It is impracticable to use a 7-day average limitation, because spikes that occur under a 7-day average scheme could

cause a visible oil sheen. A 7-day average scheme would not be sufficiently protective of beneficial uses. The monthly average and the daily maximum limits cannot be removed because none of the anti-backsliding exceptions apply. Both limits were included in the previous permit and the Ojai Valley WWTP has been able to meet both limits.

v. **Residual Chlorine**

Disinfection of effluent with chlorine produces a chlorine residual. Chlorine and its reaction products are toxic to aquatic life, and short term exposure to chlorine may cause fish kills. The limit for residual chlorine is based on the Basin Plan water quality objective, "Chlorine residual shall not be present in surface water discharges at concentrations that exceed 0.1 mg/L and shall not persist in receiving waters at any concentration that causes impairment of beneficial uses."

It is impracticable to use a 7-day average or a 30-day average limitation, because it is not as protective of beneficial uses as a daily maximum limitation.

The Facility uses ultra violet (UV) lamps to disinfect the effluent. As such, chlorine is not typically used at the Facility. However, as a backup, a chlorination/dechlorination process is used during storm events and normal process interruptions.

vi. **TDS, Chloride, Sulfate, and Boron**

The limitations for TDS, sulfate, and boron are based on Basin Plan Water Quality Objectives for the Ventura River Watershed Reach 2 (between confluence with Weldon Canyon and Main Street). The TDS is 1,500 mg/L, chloride is 300 mg/L, sulfate is 500 mg/L, and boron is1.5 mg/L. It is practicable to express these limits as monthly averages, since they are not expected to cause acute effects on beneficial uses.

Limitations based upon the Basin Plan WQOs have been included in this Order because, based upon BPJ, these constituents are always present in potable water which is the supply source of the wastewater entering the treatment plant. They may be present in concentrations, which meet California drinking water standards but exceed the Basin Plan WQOs. Therefore, limitations are warranted to protect the beneficial uses of the receiving water.

vii. **Methylene Blue Activated Substances (MBAS)**

The existing permit effluent limitation of 0.5 mg/L for MBAS was developed based on the Basin Plan water quality objective, which incorporates Drinking Water Standards in Title 22, California Code of Regulations, to protect the surface water MUN beneficial use. Given the nature of the facility which accepts domestic wastewater into the sewer system and treatment plant, and the characteristics of the wastes discharged, the discharge has the reasonable potential to exceed both the numeric MBAS water quality objective (WQO) and the narrative WQO for the prohibition of floating material such as foams and scums. Therefore an effluent limitation is required.

Cobalt thiocyanate active substances (CTAS) are monitored in the same way as MBAS. The presence or absence of CTAS during sampling assists permit writers and the Permittee in diagnosing the source of floating materials, such as foam or scum, which are prohibited by the Basin Plan when they cause

nuisance or adversely affect beneficial uses. There is no limitation or compliance requirement for CTAS.

viii. **Nitrogen Compounds/Nutrient Compounds**

Nitrate Nitrogen (NO_3 –N), Nitrite Nitrogen (NO_2 –N), Total Inorganic Nitrogen (NO_2 + NO_3 as N) – Total inorganic nitrogen is the sum of Nitrate-nitrogen and Nitrite-nitrogen. High nitrate levels in drinking water can cause health problems in humans. Infants are particularly sensitive and can develop methemoglobinemia (blue-baby syndrome). Nitrogen is also considered a nutrient. Excessive amounts of nutrients can lead to other water quality impairments.

(a) **Algae.** Excessive growth of algae and/or other aquatic plants can degrade water quality. Algal blooms sometimes occur naturally, but they are often the result of excess nutrients (i.e., nitrogen, phosphorus) from waste discharges or nonpoint sources. These algal blooms can lead to problems with tastes, odors, color, and increased turbidity and can depress the dissolved oxygen content of the water, leading to fish kills. Floating algal scum and algal mats are also an aesthetically unpleasant nuisance.

The limitations for biostimulatory substances are based on the Basin Plan water quality objective, "Waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses," and other relevant information and are intended to be protective of the beneficial uses, pursuant to 40 CFR part 122.44(d). Total inorganic nitrogen will be the indicator parameter intended to control algae, pursuant to 40 CFR part 122.44(d)(1)(vi)(C).

The Ventura River Nutrients TMDL contains waste load allocations for total nitrogen (TN) and total phosphorus (TP). Since TN and TP have WLAs in the Ventura River Nutrients TMDL, WQBELs for TN and TP are required in order to implement the provisions of the TMDL and to try and restore the water quality in that section of the receiving water.

(b) **Concentration-based limit.** The effluent limitation of 10 mg/L for total inorganic nitrogen (NO_2 –N + NO_3 –N) is based on Basin Plan water quality objective for the Ventura River Watershed (between confluence with Weldon Canyon and Main Street.

(c) **Nitrite as Nitrogen**

The effluent limitation of 1 mg/L is in the Order based upon BPJ and Basin Plan WQOs for nitrite-nitrogen, because in the process of reducing ammonia concentrations by a process such as NDN, the ammonia and organic nitrogen are oxidized to nitrite before final conversion to nitrate. Therefore, there is reasonable potential for nitrite to be present in the discharge if the oxidation process is not complete.

$2NH_4$+ (ammonia) + $3O_2 \rightarrow 4H^+ + 2NO_2^-$ (nitrite) + H_2O (water)

$2NO_2^-$ (nitrite) + $O_2 \rightarrow 2NO_3^-$ (nitrate)

(d) **Mass-based limit.** The mass emission rates are based on the plant design flow rate of 3 MGD.

ix. **Total Ammonia**

Ammonia is a pollutant routinely found in the wastewater effluent of POTWs, in landfill-leachate, and in run-off from agricultural fields where commercial fertilizers and animal manure are applied. Ammonia exists in two forms – un-ionized ammonia (NH_3) and the ammonium ion (NH_4^+). They are both toxic, but the neutral, un-ionized ammonia species (NH_3) is much more toxic, because it is able to diffuse across the epithelial membranes of aquatic organisms much more readily than the charged ammonium ion. The form of ammonia is primarily a function of pH, but it is also affected by temperature and other factors. Additional impacts can also occur as the oxidation of ammonia lowers the dissolved oxygen content of the water, further stressing aquatic organisms. Oxidation of ammonia to nitrate may lead to groundwater impacts in areas of recharge. Groundwater recharge is a beneficial use in these reaches. Ammonia also combines with chlorine (often both are present in POTW treated effluent discharges) to form chloramines – persistent toxic compounds that extend the effects of ammonia and chlorine downstream.

The Basin Plan ammonia objectives were revised on April 25, 2002, by the Regional Water Board, with the adoption of Resolution No. 2002-011, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters (including enclosed bays, estuaries and wetlands) with Beneficial Use designations for protection of Aquatic Life*. Resolution No. 2002-011 was approved by the State Water Board, OAL, and USEPA on April 30, 2003, June 5, 2003, and June 19, 2003, respectively, and is now in effect.

On December 1, 2005, the Regional Water Board adopted Resolution No. 2005-014, An Amendment to the *Water Quality Control Plant for the Los Angeles Region to Revise Early Life Stage Implementation Provision of the Freshwater Ammonia Objectives for Inland Surface Waters (including enclosed bays, estuaries and wetlands) for Protection of Aquatic Life*. This amendment contains ammonia objectives to protect Early Life Stages (ELS) of fish in inland surface water supporting aquatic life. This resolution was approved by the USEPA on April 5, 2007. This amendment revised the implementation provision included as part of the freshwater ammonia objectives relative to the protection of ELS of fish in inland surface waters.

The Regional Water Board has adopted NPDES permits recently using an approach for calculating both the end-of-pipe limitations for ammonia, as well as receiving water limitations that address site-specific characteristics of effluent, as well as the receiving water. The procedures for calculating the ammonia nitrogen effluent limitation based on Basin Plan amendment is discussed below:

(a) **One-Hour Average Objective**

The USEPA approval letter dated June 19, 2003, of the 2002 Ammonia Basin Plan Amendment, stated that the acute criteria are dependent on pH and whether sensitive coldwater fish are present. The Facility's immediate receiving waterbody has "COLD" and "MIGR" beneficial use designation. Therefore, the one-hour average objective is dependent on pH and fish species salmonids present but not temperature.

For waters designated COLD or MIGR, the one-hour average concentration of total ammonia as nitrogen (in mg N/L) shall not exceed the values in Table 3-1 of the Basin Plan or as described in the equation below:

$$\text{One-hour Average Concentration} = \frac{0.275}{1+10^{7.204-pH}} + \frac{39}{1+10^{pH-7.204}}$$

The 90th percentile of effluent pH is 7.8. Use of the 90th percentile pH to set effluent limitations is appropriate because of the shorter time scale of the one-hour average. It is conservative, because it is overprotective 90% of the time. Additionally, there is little variability in the effluent pH data. Using the pH value of 7.8 in the formula above, the resulting One-hour Average Objective is equal to 8.11 mg N/L.

(b) **30-Day Objective**

Early life stage of fish is presumptively present and must be protected at all times of the year unless the water body is listed in Table 3-5 of the Basin Plan (in Resolution No. 2005-014) or unless a site-specific study is conducted, which justifies applying the ELS absent condition or a seasonal ELS present condition. Ojai Valley WWTP discharges into the Ventura River, which is not listed in Table 3-5. Therefore, this waterbody will be designated "ELS Present" condition. For freshwaters subject to the "Early Life Stage Present" condition, the thirty-day average concentration of total ammonia as nitrogen (in mg N/L) shall not exceed the values in Table 3-2 of the Basin Plan or as described in the equation below

$$\text{30-day Average Concentration} = \left(\frac{0.0577}{1+10^{7.688-pH}} + \frac{2.487}{1+10^{pH-7.688}}\right) * MIN\left(2.85, 1.45 * 10^{0.028*(25-T)}\right)$$

Where T = temperature expressed in ºC.

The 30-day average objective[4] is dependent on pH, temperature, and the presence or absence of early life stages of fish. The 50th percentile of effluent pH and temperature is 7.7 pH and 21.7°C, respectively. Use of the 50th percentile pH and temperature is appropriate to set the 30-day average objective, because the 30-day average represents more long-term conditions. Additionally, there is little variability in the effluent pH data, and the 30-day objective is primarily dependent upon pH. Using the

[4] This is the current Basin Plan definition of the 30-day average objective, according to the Ammonia Basin Plan Amendment, Resolution No. 2002-011, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters (including enclosed bays, estuaries and wetlands) with Beneficial Use designations for protection of "Aquatic Life*," adopted by the Regional Water Board on April 25, 2002. It was amended by Resolution No. 2005-014, adopted by the Regional Water Board on December 1, 2005 and was approved by the USEPA on April 5, 2007. This new Resolution implements ELS Provision as described under "implementation", subparagraph 3. In this Resolution, the Discharger's receiving waterbody is designated as ELS present.

Discharger's monitoring data in the formula above, the resulting 30-Day Average Objective is equal to 2.28 mg/L.

(c) **Translation of Ammonia Nitrogen Objectives into Effluent Limitations**

In order to translate the WQOs for ammonia as described in the preceding discussions into effluent limitations, the *Implementation Provisions for the Application of Ammonia Objectives to Inland Surface Waters in the Los Angeles Region* of the Basin Plan is followed and is discussed below. This method is similar to the method contained in the SIP. The method is also consistent with that outlined in the USEPA "Technical Support Document for Water Quality-based Toxics Control" (1991) (TSD.

The following procedure is based on a steady-state model:

Step 1 – Identify applicable water quality criteria.

Effluent pH and temperature are used to calculate effluent ammonia limits. This is appropriate when using the translation procedure, because the translation procedure uses variability in ammonia effluent concentrations to set the limits from the objectives. Additionally, conditions in the effluent may be significantly different than conditions in the receiving water. Use of effluent data to set effluent ammonia limits will ensure that ammonia WQOs are met in the effluent at all times, even in the case where effluent conditions are less favorable than receiving water conditions. Additional receiving water monitoring and compliance determinations will be required in addition to the effluent limits, to ensure that ammonia WQOs are met in the receiving water at all times.

From the Discharger's effluent, the following data are summarized below:

pH = 7.8 at 90th percentile

pH = 7.7 at 50th percentile

Temperature = 21.7°C at 50th percentile

The receiving water is classified as Waters Designated COLD and MIGR.

From Table 3-1 of the Basin Plan, when pH is equal to 7.8;

One-hour Average Objective = 8.11 mg/L

From Table 3-2 of the Basin Plan, when pH = 7.7 and temperature = 21.7°C;

30-day Average Objective = 2.28 mg/L

From Basin Plan Amendment;

4-day Average Objective = 2.5 times the 30-day average objective.

4-day Average Objective = 2.5 X 2.28 = 5.71 mg/L

Ammonia WQO Summary:

One-hour Average = 8.11 mg/L

Four-day Average = 5.71 mg/L

30-day Average = 2.28 mg/L

Step 2 – For each water quality objective, calculate the effluent concentration allowance (ECA) using the steady-state mass balance model. Since mixing has not been allowed by the Regional Water Board, this equation applies:

ECA = WQO

Step 3 – Determine the Long-Term Average discharge condition (LTA) by multiplying each ECA with a factor (multiplier) that adjusts for effluent variability. By using Table 3-6, calculated CV (i.e., standard deviation/mean for ammonia), the following are the ECA.

ECA multiplier when CV = 2

One-hour Average = 0.117

Four-day Average = 0.204

30-day Average = 0.468

Using the LTA equations:

$LTA_{1\text{-hour}99} = ECA_{1\text{-hour}} \times ECA\ multiplier_{1\text{-hour}99} = 8.11 \times 0.117 = 0.948$ mg/L

$LTA_{4\text{-day}99} = ECA_{4\text{-day}} \times ECA\ multiplier_{4\text{-day}99} = 5.71 \times 0.204 = 1.164$ mg/L

$LTA_{30\text{-day}99} = ECA_{30\text{-day}} \times ECA\ multiplier_{30\text{-day}99} = 2.28 \times 0.468 = 1.067$ mg/L

Step 4 – Select the (most limiting) of the LTAs derived in Step 3 (LTA_{min})

$LTA_{min} = 0.948$ mg/L

Step 5 – Calculate water quality based effluent limitation maximum daily effluent limitation (MDEL) and average monthly effluent limitation (AMEL) by multiplying LTA_{min} as selected in Step 4, with a factor (multiplier) found in Table 3-7.

Monthly sampling frequency (n) is 30 times per month or less, and the minimum LTA is the $LTA_{30\text{-day}99}$, therefore n = 30, CV = 2.

$MDEL\ multiplier_{99} = 8.55$

$AMEL\ multiplier_{95} = 1.68$

$MDEL = LTA_{min} \times MDEL\ multiplier_{99} = 0.948 \times 8.55 = 8.1$ mg/L

$AMEL = LTA_{min} \times AMEL\ multiplier_{95} = 0.948 \times 1.68 = 1.6$ mg/L

Although new information has been evaluated during the development of ammonia nitrogen limits for this Order, relaxation of the existing ammonia nitrogen WQBELs in the 2013 Order is not allowed because no backsliding provision under CWA section 402(o)(2) or CWA sections 402(o)(1)/303(d)(4)(B) is met. Under CWA section 402(o)(2)(B)(i), while new information may include alternative grounds for translating WQS into WQBELs (e.g., necessary methodology, mathematical parameters), the use of new information to backslide requires there also to be a net decrease in the pollutant discharged; such decrease is not projected to occur for ammonia nitrogen. Under CWA sections 403(o)(1)/303(d)(4)(B) for waters in attainment for ammonia toxicity, relaxation is not consistent with the State's antidegradation policy because the discharge is in compliance with existing ammonia nitrogen WQBELs in the 2013 Order.

The calculated MDEL of 8.1 mg/L is less stringent than the previous 2013 MDEL of 4.6 mg/L. Therefore, in order to prevent backsliding, the MDEL of 4.6 mg/L and the AMEL of 1.9 mg/L are retained as the final ammonia nitrogen effluent limitations.

Table F-7. Summary of Ammonia Effluent Limitations for Discharge Point 001

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Ammonia Nitrogen	mg/L	1.9	--	4.6		
	lbs/day[5]	48	--	120		

x. **Bacteria Indicator**

Total coliform bacteria is used to indicate the likelihood of pathogenic bacteria in surface waters. Given the nature of the facility, pathogens are likely to be present in the effluent in cases where the disinfection process is not operating adequately. As such, the permit contains the following:

(a) Effluent Limitations:

(1) The 7-day median number of total coliform bacteria at some point at the end of the UV channel, during normal operation of the UV channel, and at the end of the chlorine contact chamber, when backup method is used, must not exceed a Most Probable Number (MPN) or Colony Forming Unit (CFU) of 2.2 per 100 milliliters,

(2) The number of total coliform bacteria must not exceed an MPN or CFU of 23 per 100 milliliters in more than one sample within any 30-day period, and

(3) No sample shall exceed an MPN or CFU of 240 total coliform bacteria per 100 milliliters.

These disinfection-based effluent limitations for coliform are for human health protection and are consistent with requirements established by the California Department of Public Health. These limits for coliform must be met at the point of the treatment train immediately following disinfection, as a measure of the effectiveness of the disinfection process.

(b) Receiving Water Limitation

(1) Geometric Mean Limits

E.coli density shall not exceed 126/100 mL.

(2) Single Sample Limits

E.coli density shall not exceed 235/100 mL.

These receiving water limitations are based on Resolution No. R10-005, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Bacteria Objectives for Freshwaters Designated for Water*

[5] The mass emission rates are based on the plant design flow rate of 3 MGD, and are calculated as follows: Flow (MGD) x Concentration (mg/L) x 8.34 (conversion factor) = lbs/day. During wet-weather storm events in which the flow exceeds the design capacity, the mass discharge rate limitations shall not apply, and concentration limitations will provide the only applicable effluent limitations.

Contact Recreation by Removing the Fecal Coliform Objective, adopted by the Regional Water Board on July 8, 2010, and became effective on December 5, 2011.

xi. **Temperature**

USEPA document, Quality Criteria for Water 1986 [EPA 440/5-86-001, May 1, 1986], also referred to as the Gold Book, discusses temperature and its effects on beneficial uses, such as recreation and aquatic life.

(a) The Federal Water Pollution Control Administration in 1967 called temperature "a catalyst, a depressant, an activator, a restrictor, a stimulator, a controller, a killer, and one of the most important water quality characteristics to life in water." The suitability of water for total body immersion is greatly affected by temperature. Depending on the amount of activity by the swimmer, comfortable temperatures range from 20°C to 30°C (68 °F to 86 °F).

(b) Temperature also affects the self-purification phenomenon in water bodies and therefore the aesthetic and sanitary qualities that exist. Increased temperatures accelerate the biodegradation of organic material both in the overlying water and in bottom deposits which makes increased demands on the dissolved oxygen resources of a given system. The typical situation is exacerbated by the fact that oxygen becomes less soluble as water temperature increases. Thus, greater demands are exerted on an increasingly scarce resource which may lead to total oxygen depletion and obnoxious septic conditions. Increased temperature may increase the odor of water because of the increased volatility of odor-causing compounds. Odor problems associated with plankton may also be aggravated.

(c) Temperature changes in water bodies can alter the existing aquatic community. Coutant (1972) has reviewed the effects of temperature on aquatic life reproduction and development. Reproductive elements are noted as perhaps the most thermally restricted of all life phases assuming other factors are at or near optimum levels. Natural short-term temperature fluctuations appear to cause reduced reproduction of fish and invertebrates.

The Basin Plan lists temperature requirements for the receiving waters. Based on the requirements of the Basin Plan and a white paper developed by Regional Water Board staff entitled Temperature and Dissolved Oxygen Impacts on Biota in Tidal Estuaries and Enclosed Bays in the Los Angeles Region, a maximum effluent temperature limitation of 86°F is included in the Order. The white paper evaluated the optimum temperatures for steelhead, topsmelt, ghost shrimp, brown rock crab, jackknife clam, and blue mussel. The new temperature effluent limitation is reflective of new information available that indicates that the 100°F temperature which was formerly used in permits was not protective of aquatic organisms. A survey was completed for several kinds of fish and the 86°F temperature was found to be protective. It is impracticable to use a 7-day average or a 30-day average limitation for temperature, because it is not as protective as of beneficial uses as a daily maximum limitation is. A daily maximum limit is necessary to protect aquatic life and is consistent with the fishable/swimmable goals of the CWA.

Table 4 – Effluent Limitations of this Order contains 86°F as temperature effluent limitation. It also carries a footnote that states:

> "The temperature of wastes discharged shall not exceed 86°F except as a result of external ambient temperature."

Considering the findings in the Gold Book and the White Paper developed by the Regional Water Board staff, such findings justify that 86°F as the final temperature effluent limitation is protective of aquatic organisms. The above effluent limitation for temperature has been quoted in all recent NPDES permits adopted by this Regional Water Board. Section V.A.1. of the Order explains how compliance with the receiving water temperature limitation will be determined.

xii. **Turbidity**

Turbidity is an expression of the optical property that causes light to be scattered in water due to particulate matter such as clay, silt, organic matter, and microscopic organisms. Turbidity can result in a variety of water quality impairments. The effluent limitation for turbidity which reads, "For the protection of the water contact recreation beneficial use, the discharge to water courses shall have received adequate treatment, so that the turbidity of the wastewater does not exceed: (a) a daily average of 2 Nephelometric turbidity units (NTU); (b) 5 NTU more than 5 percent of the time (72 minutes) during any 24 hour period; and (c) 10 NTU at any time" is based on the Basin Plan and section 60301.320 of Title 22 CCR, Chapter 3, "Filtered Wastewater." These limitations are technology-based and are achievable using tertiary treatment technology. The Ojai Valley WWTP is a tertiary treatment facility that uses sand as filtration media that consistently complies with the turbidity effluent limitations.

xiii. **Radioactivity**

Radioactive substances are generally present in natural waters in extremely low concentrations. Mining or industrial activities increase the amount of radioactive substances in waters to levels that are harmful to aquatic life, wildlife, or humans. The effluent limitation for radioactivity which reads, "Radioactivity of the wastes discharged shall not exceed the limits specified in Title 22, Chapter 15, Article 5, Sections 64442 and 64443, of the California Code of Regulations, or subsequent revisions," is based on the Basin Plan incorporation of Title 22, Drinking Water Standards, by reference, to protect the surface water MUN beneficial use. However, the Regional Water Board has new information about the appropriate designated uses for the water body, and based on the current designated uses, a limit for Radioactivity is unnecessary and inappropriate unless discharge is to a reach used for groundwater recharge, where Title 22-based limits apply. As indicated in Table F-4a, Basin Plan Beneficial Uses – Receiving Waters, Ventura River has a GWR beneficial use. Therefore, the accompanying Order will contain the limit for radioactivity to protect the GWR beneficial use.

c. **CTR and SIP**

The CTR and the SIP specify numeric objectives for toxic substances and the procedures whereby these objectives are to be implemented. The procedures include those used to conduct reasonable potential analysis (RPA) to determine the need for effluent limitations for priority pollutants. The TSD specifies the procedures to conduct reasonable potential analyses for non-priority pollutants.

3. Determining the Need for WQBELs

The Regional Water Board developed WQBELs for total nitrogen (TN) and total phosphorus (TP) that have available WLAs established in the *Ventura River Nutrients TMDL*. The effluent limitations for these pollutants were established regardless of whether or not there is reasonable potential for the pollutants to be present in the discharge at levels that would cause or contribute to a violation of water quality standards. The Regional Water Board developed WQBELs for these pollutants pursuant to 40 CFR section 122.44(d)(1)(vii)B, which does not require or contemplate a reasonable potential analysis (RPA). The NPDES regulations at 40 CFR 122.44(d)(1)(vii)(B) require that NPDES permits include effluent limitations developed consistent with the assumptions and requirements of any WLA that has been assigned to the discharge as part of an approved TMDL. Thus, consistent with the federal requirement and with the NPDES Permit Writers' Manual (EPA-833-K-10-001, September 2010), final effluent limitations have been included in this Order for TN and TP for which a WLA has been assigned to the permitted facility through a TMDL.

For those priority pollutants that have no assigned WLAs under a TMDL, in accordance with Section 1.3 of the SIP, Regional Water Board staff conducted an RPA for each priority pollutant with an applicable criterion or objective to determine if a WQBEL is required in the permit. The Regional Water Board analyzed effluent data to determine if a pollutant in a discharge has a reasonable potential to cause or contribute to an excursion above a state water quality standard. For all parameters that demonstrate reasonable potential, numeric WQBELs are required. The RPA considers water quality criteria from the CTR and NTR, and when applicable, water quality objectives specified in the Basin Plan. To conduct the RPA, the Regional Water Board staff identified the maximum effluent concentration (MEC) and maximum background concentration in the receiving water for each constituent, based on data provided by the Permittee. The monitoring data cover the period from January 1, 2014 to March 2018.

Section 1.3 of the SIP provides the procedures for determining reasonable potential to exceed applicable water quality criteria and objectives. The SIP specifies three triggers to complete an RPA:

Trigger 1 – If the MEC is greater than or equal to the CTR water quality criteria or applicable objective (C), a limitation is needed.

Trigger 2 – If background water quality (B) > C and the pollutant is detected in the effluent, a limitation is needed.

Trigger 3 – If other related information such as CWA 303(d) listing for a pollutant, discharge type, compliance history, then best professional judgment is used to determine that a limit is needed.

Sufficient effluent and ambient data are needed to conduct a complete RPA. If data are not sufficient, the Discharger will be required to gather the appropriate data for the Regional Water Board to conduct the RPA. Upon review of the data, and if the Regional Water Board determines that WQBELs are needed to protect the beneficial uses, the permit will be reopened for appropriate modification.

Based on the RPA, selenium demonstrates reasonable potential because of Trigger 2, background water quality (B) > C and the pollutant is detected in the effluent. The following Table summarizes results from RPA.

Table F-8. Summary of Reasonable Potential Analysis

CTR No.	Constituent	Applicable Water Quality Criteria (C) µg/L	Max Effluent Conc. (MEC) µg/L	Maximum Detected Receiving Water Conc. (B) µg/L	RPA Result - Need Limitation ?	Reason
1	Antimony	4300	0.98	2.9	No	C>B, C>MEC
2	Arsenic	150	2.2	3.3	No	C>B, C>MEC
3	Beryllium	Narrative	ND	--	No	C>B, C>MEC
4	Cadmium	4.39	0.11	0.18	No	C>B, C>MEC
5a	Chromium III	378.6	1.63	0.33	No	C>B, C>MEC
5b	Chromium VI	11	1.7	2.2	No	C>B, C>MEC
6	Copper	18	9.6	9.7	No	C>B, C>MEC
7	Lead	166	0.8	5.4	No	C>B, C>MEC
8	Mercury	0.051	0.003	ND	No	C>B, C>MEC
9	Nickel	97	10.6	5.5	No	C>B, C>MEC
10	Selenium	5	2.2	5.8	Yes	B>C, and detected in the effluent (Tier 2)
11	Silver	10	0.03	0.04	No	C>B, C>MEC
12	Thallium	6.3	ND	ND	No	C>B, C>MEC
13	Zinc	187	77.8	124	No	C>B, C>MEC
14	Cyanide	5.2	2.4	3.1	No	C>B, C>MEC
15	Asbestos	$7x10^6$ fibers/L	No sample	No sample	No	N/A
16	2,3,7,8-TCDD (Dioxin)	$1.4x10^{-08}$	0.00000041	ND	No	C>B, C>MEC
17	Acrolein	780	ND	ND	No	C>B, C>MEC
18	Acrylonitrile	0.66	ND	ND	No	C>B, C>MEC
19	Benzene	71	ND	ND	No	C>B, C>MEC
20	Bromoform	360	1.2	ND	No	C>B, C>MEC
21	Carbon Tetrachloride	4.4	0.2	ND	No	C>B, C>MEC
22	Chlorobenzene	21,000	ND	ND	No	C>B, C>MEC
23	Dibromochloro-methane	34	11.7	0.22	No	C>B, C>MEC
24	Chloroethane	No criteria	ND	ND	No	No criteria
25	2-chloroethyl vinyl ether	No criteria	ND	ND	No	No criteria
26	Chloroform	No criteria	--	--	No	No criteria
27	Dichlorobromo-methane	46	29	3.7	No	C>B, C>MEC
28	1,1-dichloroethane	No criteria	ND	ND	No	No criteria
29	1,2-dichloroethane	99	ND	ND	No	C>B, C>MEC
30	1,1-dichloroethylene	3.2	ND	ND	No	C>B, C>MEC
31	1,2-dichloropropane	39	ND	ND	No	C>B, C>MEC
32	1,3-dichloropropylene	1,700	ND	ND	No	C>B, C>MEC
33	Ethylbenzene	29,000	ND	ND	No	C>B, C>MEC
34	Methyl bromide	4,000	ND	ND	No	C>B, C>MEC
35	Methyl chloride	No criteria	29	ND	No	No criteria

CTR No.	Constituent	Applicable Water Quality Criteria (C) µg/L	Max Effluent Conc. (MEC) µg/L	Maximum Detected Receiving Water Conc. (B) µg/L	RPA Result - Need Limitation ?	Reason
36	Methylene chloride	1,600	1.0	0.2	No	C>B, C>MEC
37	1,1,2,2-tetrachloroethane	11	ND	ND	No	C>B, C>MEC
38	Tetrachloroethylene	8.85	4.3	ND	No	C>B, C>MEC
39	Toluene	200,000	1.0	ND	No	C>B, C>MEC
40	Trans 1,2-Dichloroethylene	140,000	ND	ND	No	C>B, C>MEC
41	1,1,1-Trichloroethane	No criteria	ND	ND	No	C>B, C>MEC
42	1,1,2-Trichloroethane	42	ND	ND	No	C>B, C>MEC
43	Trichloroethylene	81	ND	ND	No	C>B, C>MEC
44	Vinyl Chloride	525	ND	ND	No	C>B, C>MEC
45	2-chlorophenol	400	ND	ND	No	C>B, C>MEC
46	2,4-dichlorophenol	790	ND	ND	No	C>B, C>MEC
47	2,4-dimethylphenol	2,300	0.2	ND	No	C>B, C>MEC
48	4,6-dinitro-o-cresol(aka 2-methyl-4,6-Dinitrophenol)	765	ND	ND	No	C>B, C>MEC
49	2,4-dinitrophenol	14,000	ND	ND	No	C>B, C>MEC
50	2-nitrophenol	No criteria	ND	ND	No	No criteria
51	4-nitrophenol	No criteria	ND	ND	No	No criteria
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-cresol)	No criteria	ND	ND	No	No criteria
53	Pentachlorophenol	8.2	ND	ND	No	C>B, C>MEC
54	Phenol	4,600,000	3.7	ND	No	C>B, C>MEC
55	2,4,6-trichlorophenol	6.5	0.4	ND	No	C>B, C>MEC
56	Acenaphthene	2,700	ND	ND	No	C>B, C>MEC
57	Acenaphthylene	No criteria	ND	ND	No	No criteria
58	Anthracene	110,000	ND	ND	No	C>B, C>MEC
59	Benzidine	0.00054	ND	ND	No	C>B, C>MEC
60	Benzo(a)Anthracene	0.049	ND	ND	No	C>B, C>MEC
61	Benzo(a)Pyrene	0.049	0.01	ND	No	C>B, C>MEC
62	Benzo(b)Fluoranthene	0.049	0.01	ND	No	C>B, C>MEC
63	Benzo(ghi)Perylene	No criteria	ND	ND	No	No criteria
64	Benzo(k)Fluoranthene	0.049	0.01	ND	No	C>B, C>MEC
65	Bis(2-Chloroethoxy) methane	No criteria	ND	ND	No	No criteria
66	Bis(2-Chloroethyl)Ether	1.4	ND	ND	No	C>B, C>MEC
67	Bis(2-Chloroisopropyl) Ether	170,000	ND	ND	No	C>B, C>MEC
68	Bis(2-Ethylhexyl)Phthalate	4	1.7	ND	No	C>B, C>MEC

CTR No.	Constituent	Applicable Water Quality Criteria (C) µg/L	Max Effluent Conc. (MEC) µg/L	Maximum Detected Receiving Water Conc. (B) µg/L	RPA Result - Need Limitation ?	Reason
69	4-Bromophenyl Phenyl Ether	No criteria	ND	ND	No	No criteria
70	Butylbenzyl Phthalate	5,200	ND	ND	No	C>B, C>MEC
71	2-Chloronaphthalene	4,300	ND	ND	No	C>B, C>MEC
72	4-Chlorophenyl Phenyl Ether	No criteria	ND	ND	No	No criteria
73	Chrysene	0.049	0.01	ND	No	C>B, C>MEC
74	Dibenzo(a,h) Anthracene	0.049	0.03	ND	No	C>B, C>MEC
75	1,2-Dichlorobenzene	17,000	ND	ND	No	C>B, C>MEC
76	1,3-Dichlorobenzene	2,600	0.3	ND	No	C>B, C>MEC
77	1,4-Dichlorobenzene	2,600	0.1	ND	No	C>B, C>MEC
78	3-3'-Dichlorobenzidine	0.077	ND	ND	No	C>B, C>MEC
79	Diethyl Phthalate	120,000	0.3	ND	No	C>B, C>MEC
80	Dimethyl Phthalate	2,900,000	ND	ND	No	C>B, C>MEC
81	Di-n-Butyl Phthalate	12,000	ND	ND	No	C>B, C>MEC
82	2-4-Dinitrotoluene	9.1	ND	ND	No	C>B, C>MEC
83	2-6-Dinitrotoluene	No criteria	ND	ND	No	No criteria
84	Di-n-Octyl Phthalate	No criteria	ND	ND	No	No criteria
85	1,2-Diphenylhydrazine	0.54	ND	ND	No	C>B, C>MEC
86	Fluoranthene	370	ND	ND	No	C>B, C>MEC
87	Fluorene	14,000	ND	ND	No	C>B, C>MEC
88	Hexachlorobenzene	50	ND	ND	No	C>B, C>MEC
89	Hexachlorobutadiene	50	ND	ND	No	C>B, C>MEC
90	Hexachlorocyclo-pentadiene	17,000	ND	ND	No	C>B, C>MEC
91	Hexachloroethane	8.9	ND	ND	No	C>B, C>MEC
92	Indeno(1,2,3-cd) Pyrene	0.049	0.02	ND	No	C>B, C>MEC
93	Isophorone	600	ND	ND	No	C>B, C>MEC
94	Naphthalene	No criteria	ND	ND	No	No criteria
95	Nitrobenzene	1,900	ND	ND	No	C>B, C>MEC
96	N-Nitrosodimethylamine	8.1	1.3	0.02	No	C>B, C>MEC
97	N-Nitrosodi-n-Propylamine	1.4	ND	ND	No	C>B, C>MEC
98	N-Nitrosodiphenylamine	16	ND	ND	No	C>B, C>MEC
99	Phenanthrene	No criteria	ND	ND	No	No criteria
100	Pyrene	11,000	ND	ND	No	C>B, C>MEC

CTR No.	Constituent	Applicable Water Quality Criteria (C) µg/L	Max Effluent Conc. (MEC) µg/L	Maximum Detected Receiving Water Conc. (B) µg/L	RPA Result - Need Limitation ?	Reason
101	1,2,4-Trichlorobenzene	No criteria	ND	ND	No	No criteria
102	Aldrin	0.00014	ND	ND	No	C>B, C>MEC
103	Alpha-BHC	0.013	ND	ND	No	C>B, C>MEC
104	Beta-BHC	0.046	ND	ND	No	C>B, C>MEC
105	Gamma-BHC (aka Lindane)	0.063	0.01	ND	No	C>B, C>MEC
106	delta-BHC	No criteria	ND	ND	No	No criteria
107	Chlordane	0.00059	ND	ND	No	C>B, C>MEC
108	4,4'-DDT	0.00059	ND	ND	No	C>B, C>MEC
109	4,4'-DDE	0.00059	ND	ND	No	C>B, C>MEC
110	4,4'-DDD	0.00084	ND	ND	No	C>B, C>MEC
111	Dieldrin	0.00014	ND	ND	No	C>B, C>MEC
112	Alpha-Endosulfan	0.056	ND	ND	No	C>B, C>MEC
113	Beta-Endosulfan	0.056	ND	ND	No	C>B, C>MEC
114	Endosulfan Sulfate	240	ND	ND	No	C>B, C>MEC
115	Endrin	0.036	ND	ND	No	C>B, C>MEC
116	Endrin Aldehyde	0.81	ND	ND	No	C>B, C>MEC
117	Heptachlor	0.00021	ND	ND	No	C>B, C>MEC
118	Heptachlor Epoxide	0.00011	ND	ND	No	C>B, C>MEC
119	PCB 1016	0.00017	ND	ND	No	C>B, C>MEC
120	PCB 1221	0.00017	ND	ND	No	C>B, C>MEC
121	PCB 1232	0.00017	ND	ND	No	C>B, C>MEC
122	PCB 1242	0.00017	ND	ND	No	C>B, C>MEC
123	PCB 1248	0.00017	ND	ND	No	C>B, C>MEC
124	PCB 1254	0.00017	ND	ND	No	C>B, C>MEC
125	PCB 1260	0.00017	ND	ND	No	C>B, C>MEC
126	Toxaphene	0.0002	ND	ND	No	C>B, C>MEC

4. WQBEL Calculations

a. **Calculation Options.** Once RPA has been conducted using either the TSD or the SIP methodologies, WQBELs are calculated. Alternative procedures for calculating WQBELs include:

i. Use WLA from applicable TMDL

ii. Use a steady-state model to derive MDELs and AMELs.

iii. Where sufficient data exist, use a dynamic model which has been approved by the State Water Board.

b. **Ventura River Nutrients TMDL Calculation Procedure.** The procedures for calculating the TN and TP as discussed on page 10, Implementation Plan of

Resolution No. R12-011 are provided in the Compliance Determination section of the Order, section VII.O.

c. **SIP Calculation Procedure.** Section 1.4 of the SIP requires the step-by-step procedure to "adjust" or convert CTR numeric criteria into AMELs and MDELs, for toxics.

Step 3 of Section 1.4 of the SIP (page 8) lists the statistical equations that adjust CTR criteria for effluent variability.

Step 5 of Section 1.4 of the SIP (page 10) lists the statistical equations that adjust CTR criteria for averaging periods and exceedance frequencies of the criteria/objectives.

Sample calculation for selenium:

Step 1: Identify applicable water quality criteria.

From California Toxics Rule (CTR), we can obtain the Criterion Maximum Concentration (CMC) and the Criterion Continuous Concentration (CCC).

Freshwater Aquatic Life Criteria:

CMC = N/A (CTR page 31712, column B1)

CCC = 5.0 µg/L (CTR page 31712, column B1)

Human Health Criteria for Organisms only = narrative (CTR page 31712, column D2).

Step 2: Calculate effluent concentration allowance (ECA)

ECA = Criteria in CTR, since no dilution is allowed.

Step 3: Determine long-term average (LTA) discharge condition

Calculate CV:

CV = Standard Deviation/Mean

= 1.2

Find the ECA Multipliers from SIP Table 1 (page 7), or by calculating them using equations on SIP page 6. When CV = 1.2, then:

ECA Multiplier acute = 0.174

ECA Multiplier chronic = 0.321

LTA acute = ECA acute x ECA Multiplier acute

= N/A x 0.174 = NA

LTA chronic = ECA chronic x ECA Multiplier chronic

= 5.0 x 0.321 = 1.6 µg/L

Step 4: Select the lowest LTA

Lowest LTA = 1.6

Step 5: Calculate the Average Monthly Effluent Limitation (AMEL) & Maximum Daily Effluent Limitation (MDEL) for AQUATIC LIFE

Find the multipliers. You need to know CV and n (frequency of sample collection per month). If effluent samples are collected 4 times a month or less, then n = 4. CV was determined to be 1.2 in a previous step.

AMEL Multiplier = 2.13

MDEL Multiplier = 5.76

AMEL aquatic life = lowest LTA (from Step 4) x AMEL Multiplier

= 1.6 x 2.13 = 3.41 µg/L

MDEL aquatic life = lowest LTA (from Step 4) x MDEL Multiplier

= 1.6 x 5.76 = 9.22 µg/L

Step 6: Find the Average Monthly Effluent Limitation (AMEL) & Maximum Daily Effluent Limitation (MDEL) for HUMAN HEALTH

Find factors. Given CV = 1.2 and n = 4.

For AMEL human health limit, there is no factor.

The MDEL/AMEL human health factor = 2.70

AMEL human health = ECA = NA

MDEL human health = ECA x MDEL/AMEL factor

= NA x 2.70 = NA

Step 7: Compare the AMELs for Aquatic life and Human health and select the lowest. Compare the MDELs for Aquatic life and Human health and select the lowest

Lowest AMEL = 3.4 µg/L (Based on aquatic life protection)

Lowest MDEL = 9.2 µg/L (Based on aquatic life protection)

d. **Impracticability Analysis.** Federal NPDES regulations contained in 40 CFR part 122.45, states that, for continuous discharges, all permit effluent limitations, standards, and prohibitions, including those to achieve water quality standards, shall unless impracticable be stated as maximum daily and average monthly discharge limitations for all Permittees other than POTWs.

As stated by USEPA in its long standing guidance for developing WQBELs average alone limitations are not practical for limiting acute, chronic, and human health toxic effects.

For example, a facility sampling for a toxicant to evaluate compliance with a 7-day average limitation could fully comply with this average limit, but still be discharging toxic effluent on one, two, three, or up to four of these seven days and not be meeting 1-hour average acute criteria or 4-day average chronic criteria. For these reasons, USEPA recommends daily maximum and 30-day average limits for regulating toxics in all NPDES discharges. For the purposes of protecting the acute effects of discharges containing toxicants (CTR human health for the ingestion of fish), daily maximum limitations have been established in this NPDES permit for mercury because it is considered to be a carcinogen, endocrine disruptor, and is bioaccumulative.

A 7-day average alone would not protect one, two, three, or four days of discharging pollutants in excess of the acute and chronic criteria. Fish exposed to these

endocrine disrupting chemicals will be passed on to the human consumer. Endocrine disrupters alter hormonal functions by several means. These substances can:

i. Mimic or partly mimic the sex steroid hormones estrogens and androgens (the male sex hormone) by binding to hormone receptors or influencing cell signaling pathways.

ii. Block, prevent and alter hormonal binding to hormone receptors or influencing cell signaling pathways.

iii. Alter production and breakdown of natural hormones.

iv. Modify the making and function of hormone receptors.

e. **Mass-based limits.** 40 CFR part 122.45(f)(1) requires that except under certain conditions, or for certain pollutants, all permit limits, standards, or prohibitions be expressed in terms of mass units. 40 CFR part 122.45(f)(2) allows the permit writer, at its discretion, to express limits in additional units (e.g., concentration units). The regulations mandate that, where limits are expressed in more than one unit, the permittee must comply with both.

Generally, mass-based limits ensure that proper treatment, and not dilution, is employed to comply with the final effluent concentration limits. Concentration-based effluent limitations, on the other hand, discourage the reduction in treatment efficiency during low-flow periods and require proper operation of the treatment units at all times. In the absence of concentration-based effluent limits, a permittee would be able to increase its effluent concentration (i.e., reduce its level of treatment) during low-flow periods and still meet its mass-based limits. To account for this, this permit includes mass and concentration limits for some constituents.

Table F-9. Summary of WQBELs for Discharge Point 001

Parameter	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	Average Seasonal
Ammonia Nitrogen[6]	mg/L	1.9	--	4.6			
	lbs/day[6]	48	--	120			
Total Phosphorus (wet-weather)[7]	mg/L	--	--	2.6			
Total Phosphorus (dry-weather)[7]	lbs/dry-weather	--	--	--			5,799
Total Nitrogen[8] (summer season)	lbs/season	--	--	--			8,044

[6] This is the translated effluent limitation for ammonia based on the WQO for ammonia in the current Basin Plan, Table 3-1 and Table 3-2, which resulted from Resolution Nos. 2002-011 and 2005-014 adopted by the Regional Water Board on April 25, 2002, and December 1, 2005, respectively. This effluent limitation is derived according to the Implementation Section of Resolution No. 2002-011.

[7] TP wet-weather and dry-weather final effluent limitation shall apply on the effective date of this permit. For the purposes of monitoring, wet-weather occurs when a rainfall event produces more than 0.25 inches of precipitation. The amount of rainfall shall be measured at the Ventura – Kingston Rain Gage D 122.

[8] TN summer season final effluent limitation shall apply 12 years after the effective date of TMDL. The summer season final effluent limitation shall apply from May 1 to September 30.

Parameter	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	Average Seasonal
Total Nitrogen[9] (winter season)	mg/L	4.6	--	--			
Selenium	µg/L	3.4	--	9.2			
	lbs/day[5]	0.09	--	0.23			

5. Whole Effluent Toxicity (WET)

Whole effluent toxicity (WET) testing protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth. Chronic toxicity is a more stringent requirement than acute toxicity. A chemical at a low concentration can have chronic effects but no acute effects until it gets to the higher level.

There are 51 chronic toxicity and 17 acute toxicity testing conducted during the period from January 2014 to March 2018. All toxicity tests did not exceed the monthly median trigger for accelerated testing requirements. However, because of the nature of industrial discharges into the POTW sewershed, it is possible that other toxic constituents could be present in the Ojai Valley WWTP effluent, or could have synergistic or additive effects. Using best professional judgement, staff has determined that there is reasonable potential to exist for chronic toxicity. As such, the permit contains effluent limitations for chronic toxicity.

This permit contains final effluent limitations for chronic toxicity, expressed as a monthly median and a daily maximum. The effluent limitations for chronic toxicity were established because effluent data showed that there is reasonable potential for the pollutants to be present in the discharge at levels that would cause or contribute to a violation of water quality standard.

In the past, the State Water Board reviewed the circumstances warranting a numeric chronic toxicity effluent limitation when there is reasonable potential with respect to SWRCB/OCC Files A-1496 & A-1496(a) [Los Coyotes/Long Beach Petitions]. On September 16, 2003, at a public hearing, the State Water Board adopted Order No. 2003-0012 (Los Coyotes Order) deferring the issue of numeric chronic toxicity effluent limitations until a subsequent Phase of the SIP is adopted. In the meantime, the State Water Board replaced the numeric chronic toxicity limit with a narrative effluent limitation and a 1.0 TUc trigger, in the Long Beach and Los Coyotes WRP NPDES permits.

However, many facts have changed since the State Water Board adopted the Los Coyotes Order in 2003. USEPA published two new guidance documents with respect to chronic toxicity testing; the Los Angeles Regional Water Board adopted NPDES permits for industrial facilities incorporating TST-based effluent limitations for chronic toxicity and has adopted numeric chronic toxicity effluent limitations for industrial facilities and

[9] TN winter season final effluent limitation shall apply 12 years after the effective date of TMDL. The winter season final effluent limitation shall apply from October 1 to April 30.

POTWs with TMDL WLAs of 1.0 TUc; and the Santa Ana Regional Water Board adopted an NPDES permit for a POTW incorporating TST-based effluent limitations for chronic toxicity. In addition to these factual developments, the State Water Board has not adopted a revised policy that addresses chronic toxicity effluent limitations in NPDES permits for inland discharges, as anticipated by the Los Coyotes Order. Because the Los Coyotes Order explicitly "declined to make a determination … regarding the propriety of the final numeric effluent limitations for chronic toxicity…," (Los Coyotes Order, p. 9) and because of the differing facts before the Regional Water Board in 2014 as compared to the facts that were the basis for the Los Coyotes Order in 2003, the Regional Water Board concludes that the Los Coyotes Order does not require inclusion of narrative rather than numeric effluent limitations for chronic toxicity. Further, the Regional Water Board finds that numeric effluent limitations for chronic toxicity are necessary, feasible, and appropriate.

On July 7, 2014, the Chief Deputy of the Water Quality Division announced that the State Water Board would be releasing a revised version of the Chronic Toxicity Plan for public comment and that has not yet occurred. Because the effluent data from San Jose Creek WRP exhibited reasonable potential to cause or contribute to an exceedance of the water quality objective, this Order contains numeric chronic toxicity effluent limitations. Compliance with the chronic toxicity requirements contained in this Order are to be determined in accordance to sections VII.J. This Order contains a reopener to allow the Regional Water Board to modify the permit, if necessary, to make it consistent with any new policy, law, or regulation.

For this permit, chronic toxicity in the discharge is evaluated using a monthly median effluent limitation and a maximum daily effluent limitation that utilize USEPA's 2010 Test of Significant Toxicity (TST) hypothesis testing approach. The chronic toxicity effluent limitation is expressed as "Pass" for the median monthly summary results and "Pass" or "<50% Effect" for each maximum daily individual results.

In January 2010, USEPA published a guidance document entitled, "EPA Regions 8, 9 and 10 Toxicity Training Tool," which among other things discusses permit limit expression for chronic toxicity. The document acknowledges that NPDES regulations at 40 CFR section 122.45(d) requires that all permit limitations be expressed, unless impracticable, as an Average Weekly Effluent Limitation (AWEL)) and an Average Monthly Effluent Limitation (AMEL) for POTWs. Following section 5.2.3 of the Technical Support Document (TSD), the use of an AWEL is not appropriate for WET. In lieu of an AWEL for POTWs, USEPA recommends establishing an MDEL for toxic pollutants and pollutants in water quality permitting, including WET. This is appropriate for two reasons. The basis for the average weekly requirement for POTWs derives from secondary treatment regulations and is not related to the requirement to assure achievement of water quality standards (WQS). Moreover, an average weekly requirement comprising up to seven daily samples could average out daily peak toxic concentrations for WET and therefore, the discharge's potential for causing acute and chronic effects would be missed. It is impracticable to use an AWEL, because short-term spikes of toxicity levels that would be permissible under the 7-day average scheme would not be adequately protective of all beneficial uses. The MDEL is the highest allowable value for the discharge measured during a calendar day or 24-hour period representing a calendar day. The AMEL is the highest allowable value for the average of daily discharges obtained over a calendar month. For WET, this is the average of individual WET test results for that calendar month. However, in cases where a chronic mixing zone is not authorized, USEPA Regions 9 and 10 continue to recommend that the AMEL for chronic WET should be expressed as a median monthly limit (MMEL).

Later in June 2010, USEPA published another guidance document titled, Test of Significant Toxicity Implementation Document (EPA 833-R-10-003, June 2010), in which they recommend the following: "Permitting authorities should consider adding the TST approach to their implementation procedures for analyzing valid WET data for their current NPDES WET Program." The TST approach is another statistical option for analyzing valid WET test data. Use of the TST approach does not result in any changes to USEPA's WET test methods. Section 9.4.1.2 of USEPA's Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (EPA/821/R-02/013, 2002), recognizes that, "the statistical methods in this manual are not the only possible methods of statistical analysis." The TST approach can be applied to acute (survival) and chronic (sublethal) endpoints and is appropriate to use for both freshwater and marine EPA WET test methods.

USEPA's WET testing program and acute and chronic WET methods rely on the measurement result for a specific test endpoint, not upon achievement of specified concentration-response patterns to determine toxicity. USEPA's WET methods do not require achievement of specified effluent or ambient concentration-response patterns prior to determining that toxicity is present. Nevertheless, USEPA's acute and chronic WET methods require that effluent and ambient concentration-response patterns generated for multi-concentration acute and chronic toxicity tests be reviewed - as a component of test review following statistical analysis - to ensure that the calculated measurement result for the toxicity test is interpreted appropriately. (EPA-821-R-02-012, section 12.2.6.2; EPA-821-R-02-013, section 10.2.6.2.). In 2000, USEPA provided guidance for such reviews to ensure that test endpoints for determining toxicity based on the statistical approaches utilized at the time the guidance was written (NOEC, LC50s, IC25s) were calculated appropriately (EPA 821-B-00-004).

USEPA designed its 2000 guidance as a standardized step-by step review process that investigates the causes for 10 commonly observed concentration-response patterns and provides for the proper interpretation of the test endpoints derived from these patterns for NOECs, LC50s, and IC25s, thereby reducing the number of misclassified test results. The guidance provides one of three determinations based on the review steps: (1) that calculated effect concentrations are reliable and should be reported, (2) that calculated effect concentrations are anomalous and should be explained, or (3) that the test was inconclusive and should be repeated with a newly collected sample. The standardized review of the effluent and receiving water concentration-response patterns provided by USEPA's 2000 guidance decreased discrepancies in data interpretation for NOEC, LC50, and IC25 test results, thereby lowering the chance that a truly nontoxic sample would be misclassified and reported as toxic.

Appropriate interpretation of the measurement result from USEPA's TST statistical approach (pass/fail) for effluent and receiving water samples is, by design, independent from the concentration-response patterns of the toxicity tests for those samples. Therefore, when using the TST statistical approach, application of USEPA's 2000 guidance on effluent and receiving waters concentration-response patterns will not improve the appropriate interpretation of TST results as long as all Test Acceptability Criteria and other test review procedures - including those related to Quality Assurance for effluent and receiving water toxicity tests, reference toxicity tests, and control performance (mean, standard deviation, and coefficient of variation) - described by the WET test methods manual and TST guidance, are followed. The 2000 guidance may be used to identify reliable, anomalous, or inconclusive concentration-response patterns and associated statistical results to the extent that the guidance recommends review of test procedures and laboratory performance already recommended in the WET test methods

manual. The guidance does not apply to single-concentration (IWC) and control statistical t-tests and does not apply to the statistical assumptions on which the TST is based. The Regional Water Board will not consider a concentration-response pattern as sufficient basis to determine that a TST t-test result for a toxicity test is anything other than valid, absent other evidence. In a toxicity laboratory, unexpected concentration-response patterns should not occur with any regular frequency and consistent reports of anomalous or inconclusive concentration-response patterns or test results that are not valid will require an investigation of laboratory practices.

Any Data Quality Objectives or Standard Operating Procedure used by the toxicity testing laboratory to identify and report valid, invalid, anomalous, or inconclusive effluent or receiving water toxicity test measurement results from the TST statistical approach which include a consideration of concentration-response patterns and/or PMSDs must be submitted for review by the Regional Water Board, in consultation with USEPA and the State Water Board's Quality Assurance Officer and Environmental Laboratory Accreditation Program (40 CFR section 122.41(h)). As described in the bioassay laboratory audit directives to the San Jose Creek Water Quality Laboratory from the State Water Resources Control Board dated August 7, 2014, and from the USEPA dated December 24, 2013, the PMSD criteria only apply to compliance for NOEC and the sublethal endpoints of the NOEC, and therefore are not used to interpret TST results.

D. Final Effluent Limitation Considerations

1. Anti-Backsliding Requirements

Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 CFR part 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit. The effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order No. R4-2013-0173.

Although new information has been evaluated during the development of ammonia nitrogen limits for this Order, relaxation of the existing ammonia nitrogen WQBELs in the 2008 Order is not allowed because no backsliding provision under CWA section 402(o)(2) or CWA sections 402(o)(1)/303(d)(4)(B) is met. Under CWA section 402(o)(2)(B)(i), while new information may include alternative grounds for translating WQS into WQBELs (e.g., necessary methodology, mathematical parameters), the use of new information to backslide requires there also to be a net decrease in the pollutant discharged; such decrease is not projected to occur for ammonia nitrogen. Under CWA sections 403(o)(1)/303(d)(4)(B) for waters in attainment for ammonia toxicity, relaxation is not consistent with the State's antidegradation policy because the discharge is in compliance with existing ammonia nitrogen WQBELs in the 2013 Order.

The calculated MDEL of 8.1 mg/L is less stringent than the 2013 MDEL of 4.6 mg/L. Therefore, in order to prevent backsliding, the MDEL of 4.6 mg/L is retained as the final ammonia nitrogen MDEL.

2. Antidegradation Policies

40 CFR part 131.12 requires that state water quality standards include an antidegradation policy consistent with the federal antidegradation policy. On October 28, 1968, the State Water Board established California's antidegradation policy when it adopted Resolution No. 68-16, Statement of Policy with Respect to Maintaining the Quality of the Waters of the State. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The State Water Board has, in State Water Board Order No. 86-17 and an October 7, 1987